Beam Power Tube

HIGH POWER SENSITIVITY
RCA "DARK HEATER" WITH 12- TO 15-VOLT RANGE

85 WATTS CW INPUT (ICAS) UP TO 60 Mc

50 WATTS CW INPUT (ICAS) AT 175 Mc

CONTROLLED ZERO-BIAS PLATE CURRENT

CONTROLLED POWER OUTPUT AT REDUCED HEATER VOLTAGE

For RF Power Amplifier and Oscillator Service and as an AF Power Amplifier and Modulator in Both Mobile and Fixed Equipment. The 6883B/8032A/8552 is Unilaterally Interchangeable with types 6883, 6883A, and 8032.

The 6883B/8032A/8552 is the same as the 6146B/8298A except for the following items:

Electrical:

Heater, for Unipotential Cathode:		
Voltage (AC or DC)	12.6	volts
Current at heater volts = 12.6	0.562	amp
Minimum heating time	60	sec
Direct Interelectrode Capacitances:[a]		
Grid No.1 to plate	0.24 max.	pf

[a] With no external shield.

CHARACTERISTICS RANGE VALUES

Test No.		*Note*	*Min.*	*Max.*	
1	Direct Interelectrode Capacitances: Grid No.1 to plate	1	–	0.24	pf

Note 1: With no external shield.

SPECIAL PERFORMANCE DATA

Stationary Equipment Operation:

	Min.	*Design Center*	*Max.*	
Heater, for Unipotential Cathode:				
Voltage (AC or DC)[v]	–	12.6	–	volts
Current at 12.6 volts	0.525	–	0.600	amp ←
Useful Power Output[w]	59	–	–	watts

[v] It is recommended that the design-center heater voltage be 12.6 volts; the heater power supply should not fluctuate more than 10% to insure long life.

[w] In a single-tube, self-excited oscillator circuit, and with ac heater voltage of 12.6 volts, dc plate voltage of 600 volts, dc grid-No.2 voltage of 200 volts, grid-No.1 resistor of 24,000 ± 10% ohms, dc plate current of 150 max. ma., dc grid-No.1 current of 2.5 to 3 ma., and frequency of 15 Mc.

← Indicates a change.

Mobile Equipment Operation:

	Min.	Design Range	Max.	
Heater, for Unipotential Cathode:				
Voltage (AC or DC)[x]	–	12-15	–	volts
→ Current at 13.5 volts	0.550	–	0.620	amp
Useful Power Output I[y].	59	–	–	watts
Useful Power Output II.		See *Note Z*		

[x] It is recommended that the heater voltage operate within the range of 12.0 to 15.0 volts and within excursions from 10 to 15 volts in battery operation. See *Useful Power Output Test II* and *Overvoltage Tests*.

[y] In a single-tube, self-excited oscillator circuit, and with ac heater voltage of 12.6 volts, dc plate voltage of 600 volts, dc grid-No.2 voltage of 200 volts, grid-No.1 resistor of 24,000 ± 10% ohms, dc plate current of 150 max. ma., dc grid-No.1 current of 2.5 to 3 ma., and frequency of 15 Mc.

[z] With conditions in note (y) above, reduce heater voltage to 10 volts. Useful power output will be at least 90% of the power output at heater voltage of 12.6 volts.

Overvoltage Heater Life Tests:

Continuous heater life tests are performed periodically on sample lots of tubes with 16 volts on the heater, all other electrodes "floating". Intermittent heater life tests are performed periodically on sample lots of tubes with 22 volts on the heater, a cycle of 1 minute "ON" and 4 minutes "OFF". After 1000 hours of the continuous heater life test and after 48 hours of the intermittent heater life test, the following tests are performed:

With heater voltage of 13.5 volts and ± 100 dc volts between cathode and heater, the heater-cathode leakage current will not exceed 100 microamperes.

With ac or dc heater voltage of 13.5 volts, grid-No.1 volts = -200 and cathode, grid No.2, and plate grounded, the minimum grid-No.1 leakage resistance will be 10 megohms.

With ac or dc heater voltage of 13.5 volts, plate volts = -200, and cathode grid No.1 and grid No.2 grounded, the minimum plate leakage will be 10 megohms.

→ Indicates a change.